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ABSTRACT

Three premises underlie the practice of microteaching: that much of teaching consists of behaviors, that the total performance can be broken into smaller pieces of behavior with little consideration given to the relationship between these parts, and that of a teaching performance can be usefully analyzed without consideration of what precedes or follows it. The first danger in this approach arises from the problem of isolating the constituents of teaching and setting up a doctrinaire list of skills. The second danger is failure to consider how different parts of complex behavior interact with each other. The analogies drawn between teaching painting skills or the training of a pilot and the preparation of a teacher overlook the obvious difference between paints or planes and students, who are capable of acting independently of the teacher's wishes, thus preventing a closed feedback system which would permit an accurate evaluation of the teacher's behavior. Primary emphasis therefore should be on the acquisition of principles to guide action with secondary emphasis on the development of skills. This dynamic skills approach regards skills as behavior in context with a perception of what preceded it and an anticipation of what may follow. It provides the teacher with a conceptual model in which there is sufficient freedom within the structure for the students to explore alternative paths to the desired goal. (MBM)

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THE SKILLS OF TEACHING:

A DYNAMIC APPROACH

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INTRODUCTION

The first Occasional Paper in this series[1] pointed out some difficulties which frequently arose with the straightforward application of the Stanford approach to microteaching: students responded to it negatively (or indifferently), taught lessons which led nowhere, and practiced skills without regard to their appropriateness. The paper goes on to make some extensive suggestions for improving the Stanford version, suggestions which have been put into practice with students at the University of Chicago. It is the purpose of this paper to show that the weaknesses in the standard Stanford approach stem from fundamental assumptions about the nature of the skills of teaching, that the suggested improvements reflect different notions about these skills, and that these suggestions represent a significant step towards bridging the oft-lamented but little understood gap between theory and practice in teacher education.

I.. The Component Skills Approach

There are three premises underlying the practice of microteaching. The first is that much of teaching consists of behaviors; and furthermore that teaching is a phenomenon that is potentially understandable by recording and subsequent analysis of the movements of the teacher. The context in which these movements occur is usually felt to be irrelevant, or, when mentioned, something which merely adds to a description of these movements. Second, the total performance (be it a five-minute micro-lesson or a full class period) is broken into smaller, more readily analyz-able pieces of behavior and, if reassembled at all, little consideration is given to the relation between these parts. Finally, it is assumed that a teaching performance can be usefully analyzed without consideration of what has preceded it or what may follow it.

These assumptions have a certain plausibility, their most appealing feature being that once one has made them, it is clear what needs to be done next. One isolates those behaviors which have proved to be essential to good teaching, or at least which one believes to be important to success. The component skills approach, particularly with its second premise, dictates that we break down complex teaching behavior into its constituent parts. Herein lies both the strength and weakness of the standard approach to microteaching. It is a strength because it gives one a point of entry, and a fruitful one, into a complex problem. But it carries with it several dangers. The first of these arises from the problem of how one goes about isolating the constituents of teaching. The developers of microteaching are quite blunt about how they did it:

"The decisions as to what skills should be developed in the clinic were not made in the light of any set of rules about what good teaching consists of or what teachers need to know, but resulted from the discussions and debates of the microteaching staff."[2] Perhaps in the circumstances there was no better way, but the danger is that once having got a list of fourteen (or sixteen) component skills one will become doctrinaire, insisting that these are <u>the</u> essential skills of teaching when, in fact, they are just one way of slicing up the phenomena. Other investigators, in different circumstances, would slice it differently. Indeed, the skills which one isolates <u>ought</u> to differ according to the situation in which one is interested, thus suggesting that a good way to start a microteaching clinic, for experienced teachers at least, is to have the participants themselves isolate the skills which they are going to practice.

The second danger in breaking down complex behavior into parts is that one will never consider the relationships between these parts and the ways in which they interact with each other. Complex behavior was reduced to simpler components in order to make it easier to analyze. But this does not mean that the complex can be understood, or imitated, solely by studying the parts which compose it. The parts also need to be studied in their interrelationships with one another. Questioning behavior, for example, is clearly related to reinforcement of student participation. In fact, one good way to reinforce responses is to use them in the next question. Nowhere are these sorts of relationships dealt with in the literature on microteaching; nor are they considered in most microteaching clinics. Each skill is described and practiced separately

as if it was discovered independently and would remain separated from other skills. Something needs to be done to reassemble the component skills. Otherwise the beginning teacher will be thrown into a class with only a bag of tricks and no notion of how to coordinate their use.

After isolating the component skills, the underlying premises direct one to establish clear definitions of these skills. Since each skill is assumed to consist of a set of individual behaviors, these definitions are couched in behavioral terms. Reinforcing students' participation, for example, consists of teachers' verbal statements ("Good," "That's a good start," etc.) and teachers' non-verbal cues (smiling, writing an answer on the board, etc.). To clarify the skill, one makes a list of the full range of possible reinforcing remarks and gestures. The teacher who wished to reinforce would then select remarks or gestures from this list or invent similar behaviors for himself. Conversely, if we wanted to know whether a particular teacher was reinforcing at any given moment, we see whether or not he engaged in behavior similar to the listed behavior.

The difficulty in this approach, as writers on microteaching sometimes recognize, is that the list of remarks and gestures does not tell us all that we need to know about reinforcement. Clearly, the skill can be performed well or ill, at appropriate or inappropriate times. But how does one tell whether a skill is performed well and at an appropriate time? Indeed, can one tell whether a particular skill is being performed at all? In practice it is often hard to tell which skill a teacher is performing, let alone how well he is doing it.

At the root of this difficulty is the importance of the context

within which the behavior occurs. The behavior cannot be abstracted from the context in which it occurs because the context can modify the general characteristics of a situation beyond recognition. Suppose we decided that friendly behavior was an important skill to be developed. We would then "clarify" such behavior by listing all the friendly remarks and gestures a teacher could make. But friendly behavior is not merely that. It can only be said to be friendly in a particular situation. The false smile, the patronizing air, the condescending remark are all examples of how ostensibly friendly behavior misses its mark because it is not appropriate to its situation. Similarly, the gruff exterior, irascible temperament, and uncompromising standards of the teacher who "underneath it all has a heart of gold" testify to the fact that unfriendly behavior is not always what it might seem. Thus to say that a teacher has behaved in a friendly way both describes his behavior and assesses it within a particular context.[3] And no analysis of teaching which only takes account of the movements of the teacher can capture this context. In short, the skills of teaching are not just behaviors but behaviors which are related to the situation in which they take place. Indeed, that is what is meant by appropriate or inappropriate.

Compounding this difficulty is the fact that teaching is a purposeful activity. It is behavior directed towards some goal, or goals. Consequently, the skills of teaching are skillful only insofar as they can reasonably be expected to contribute towards these goals. Reinforcement, or any other skill, is not valuable for its own sake, but only because it serves some function in the overall structure of the lesson. Nothing is

so ludicrous as the trainee who thinks he is reinforcing by responding favorably to every chance remark regardless of its correctness or relevance to the aim of his lesson. Yet it is not unusual to see such performance in microteaching clinics. Reinforcement should not be judged to be such unless it is clear what is being reinforced and why that is something worth reinforcing. In short, the skills of teaching are not just behavior in a situation but behavior in a situation with a purpose.

What happens to a trainee when context and intention are ignored? Typically, his behavior becomes only a response to a stimulus (e.g. if a student talks, say something pleasant to him) without any intervening consideration of alternatives. If a teacher's behavior has desirable outcomes, we might assume that he would include it in his repertoire, but is it likely to be available to him? The only thing that will call it forth is a replica of the situation in which it was originally successful unless there was some kind of deliberation intervening between stimulus and response. When a skill is acquired out of relation to its proper function, it will not be serviceable in actual classroom situations.

II. Two Analogies and Their Limitations

The proponents of microteaching have suggested two analogies to give weight to their arguments. The least developed is the analogy between painting and teaching.[4] Painting is said to be an art, but an art which depends on skills (a distinction which appears to be made in order to avoid the first side of it). Clearly, so the argument runs, the painter must have a repertoire of well-developed skills before he is able to paint masterpieces. The task of the painting teacher is to isolate these skills and devise practice exercises so that his students will master them. Whatever else may be involved in creating masterpieces comes later.

> But just as the beginning artist must learn to mix his paints, practice his brushstrokes, and perfect certain techniques and skills before he completely develops his own style of painting, so too, does the fledgling teacher need to be trained in particular teaching skills under differing conditions, and to have his effectiveness evaluated.[5]

This is a persuasive argument. It directs our attention towards exactly those features of teaching which microteaching emphasizes. The skills of painting are seen as isolable, describable in strictly behavioral terms, and necessary for future development as a painter. Therefore, one knows how to <u>begin</u> the education of a painter, or a teacher: develop training experiences which will foster the development of those skills which he needs in order to be a craftsman. We shall later have more to say about the extent to which the skills of teaching are like the skills of a craft. Suffice it to say here that if one were to view teaching and painting as complex behaviors which defied reduction to their molecular parts, we would then develop quite a different sort of training program.

The second analogy invites us to consider the similarities between teacher training and pilot training.[6] Just as pilots go through seven stages of training (qualification for training, introduction to specific bodies of knowledge, simulated experiences, observation of flights, supervised flights, solo flights, and advanced training) so teachers might be sent through seven similar stages of training. The analogy is a provocative one. By suggesting a different way of thinking and talking about teacher education, our attention is directed to what are undoubtedly weaknesses in our present practices. Goals are vague. Observation experiences are passive, time consuming, and not clearly focused. The teacher trainee usually moves from observation to solo work in the classroom with a minimum of simulated and supervised experience. As a result he is thrown into a class, with all its risks and complexities, without adequate chance to practice and with little chance of effective supervision. Moreover, little attention is paid to advanced training and retraining, a practice the military clearly cannot afford to follow with pilots.

The comparison does more than point out weaknesses in current practice. The analogies which it indicates suggest ways of structuring experiences during training, such as microteaching. Yet in so doing it is important to notice how they have bounded and organized our notions about teacher education by imposing on our thoughts ideas derived from pilot training.

Consider how it determines the view we hold of the goals of teacher education. As Ryan points out, "[The analogy] forces us to be more precise about the important question: what is a teacher education program trying

to accomplish?"[7] If we are going to put people through a sequence of training stages including extensive practice work, we have to have a clear idea of what we want people to do at the end of training. The pilot trainer makes his ideas clear by analyzing in detail what a pilot does. Each task requires a certain skill. Complex tasks are broken down to simpler components until the required skill is one that can be easily described. Ultimately, the pilot trainer has a list of skills which provide him with a complete behavioral description of the good pilot. The goal of his program is then to equip each trainee with the requisite skills. Simiarly, Ryan urges the teacher educator to analyze what a teacher does in order to obtain "a list of skills the teacher should perform, a behavioral definition of the good teacher."[8] Thus, the goals of teacher education are also seen as behaviors to be acquired, either individual skills or patterns of skills put together to be a strategy. Just as the end product of pilot training can be described in behavioral terms so the end product of teacher training comes to be described in behavioral terms. Using the analogy does more than force the teacher educator to be precise. It determines the way in which he will be precise by limiting him to behavioral statements.

Although such a limitation may be appropriate for the pilot trainer, we have already argued that it is questionable for the teacher educator. The goal of pilot training is to be able to fly a plane under certain characterizable conditions. There is a specifiable level of performance to be reached and practice is required to reach it. The military may also have some subsidiary goals about habits of behavior (e.g. dress code, moral code, or behavior while a prisoner of war), but the ultimate ends

of training are still describable in terms of the behavior of the pilot. This is not true about the ends of teacher training.

One important reason for this difference lies with the material which teachers and pilots are supposed to influence. A pilot is trained to fly a plane, a teacher is trained to teach students. But there are obvious differences between planes and students. Students are alive, and thus capable of thinking, feeling, and acting independently of the teacher's wishes. Planes are incapable of any of these things. Consequently, a teacher's power and control over his students is not of the same type as a pilot's power and control over a plane. Both teacher and pilot are limited by the inherent potential of their material and by surrounding circumstances, but a teacher is further limited by the capacity of his students for independent action. The final behavior of the student can never be said to be wholly determined by the teacher. In fact, one often wonders how much influence a teacher has. On the other hand, the behavior of a plane is, within specifiable limits, determined by the pilot.

Because of this difference in the material which is to be influenced, the type of feedback available to a craftsman, be he bricklayer, electrical engineer, painter, or pilot, is of quite a different character than that available to the teacher. A craftsman operates with feedback devices which are complete. A "closed circuit" exists between problem, process, output, and feedback so that the results of each behavior in a sequence can be evaluated immediately for their impact on the system. As an example, consider the pre-flight checklist that a pilot runs through before take-off. As he checks his dials, gauges instruments, and test circuits, he is looking for some anticipated behavior on the part of the

aircraft systems components. Their behavior will determine the sequence of his behavior, for they provide feedback as to the exact state of the aircraft. The green area on the dials shows the tolerable limits of "normal" performance. The red area signifies that a system has deviated from normal expectations to such an extent that commiting this system to a flight configuration would be dangerous. If a pilot encounters a problem (defined as a system that cannot be brought up into the green), he then has a series of choices to make according to a routine which he has been taught. There are distinct behaviors which will either solve the problem or adequately compensate for the failure of the problematic system. For instance, should his automatic direction finding system fail to check out, he can re-file his flight plan using an alternative navigation system which has checked out; or, if this is impossible, he can cancel the flight.

Closed feedback systems, then, are ones in which there are a limited number of possible responses from the material (bricks, paints, or planes) all of which can be anticipated. The craftsman acts, looks for one of the anticipated responses, and then routinely acts in the light of that response. If the response has not been anticipated, then the craftsman has a difficulty; but he may have routines for dealing with difficulties. Closed feedback systems are only possible where there is a close correspondence between theory and phenomena; i.e., where the craftsman's model of the world fits his experienced world. It is also necessary that there be a high degree of predictability so that responses of the system can be anticipated.

When one has a feedback circuit that enables this sort of one-to-one

relationship between theory and reality, then a behavioral system of training is highly practical. All of the options indicated by a given feedback reading can be mastered as behaviors in response to the reading for one can know by sensory data interpretation the actual state of the problem solving activity. As with computers, there is a simple yes - no test: a system either works or it doesn't. Either something will happen or nothing will happen. If something happens and it moves a needle closer to operating bias range, then do it again. If nothing happens, adopt a second set of appropriate behaviors, and so on down the line. Finally, if nothing in the sequence works, call a specialist and give him the relevant data.

In a teaching situation, however, the feedback circuits are seldom closed because we can, at best, make partial estimates of the state of others' thinking. Consequently, the teacher cannot directly determine the immediate or long term effect of any given behavior, either on his part or on the part of his students. He will not be sure that the pupils have "read" correctly the intention of his behaviors; nor will he be sure that he is correctly reading the intention of their behaviors. Therefore, without a strong two-way feedback circuit between individuals in the classroom, any behavior, taken by itself, is uninterpretable. The skills of teaching are more than simply overt behaviors, for one discrete behavior, or a series of behaviors, does not supply the feedback circuits with the information necessary for systemic evaluation.

What we have been arguing, then, is that teaching and piloting are activities that differ with respect to their ends, their material, and consequently their feedback systems. Therefore, we cannot educate someone to be a teacher in the same manner that we train someone to be a pilot.

What is at issue is the much discussed differences between teaching and training, a distinction which has been persuasively argued by Dewey.

> There is a technique of teaching just as surely as there is a technique of piano playing. The technique, if it is to be educationally effective, is dependent on principles. But it is possible for a student to acquire outward form of method without capacity to put it to genuinely educative use.[9]

Dewey is arguing that we should put primary emphasis on the acquisition of principles to guide action, and secondary emphasis on developing skills. While it is correct to argue that without a repertoire of skills a teacher cannot survive, it is equally correct to say that without rational grounds for selecting alternative courses of action a teacher cannot act in an intelligent way. Suppose a teacher possessed all the component skills; how would he then decide when to use those skills? As Cooper himself points out, "The teacher...must make decisions as to the appropriate method of achieving the instructional goal, when the particular method should be used, and what activities should precede or follow it."[10] In other words a teacher must have adequate grounds for decision making. But unless the skills are acquired in some relation to these grounds, they become mere behaviors which can be exhibited but not put to genuinely educative use.

III. The Dynamic Skills Approach

In contrast to the component skills approach to microteaching, the dynamic skills approach views the skills of teaching in an organic way. Instead of seeing the skills as only behavior, they are regarded as behavior in a context with a purpose in view of what has preceded it and in anticipation of what may follow it. Thus each skill is a pattern of events having dynamic qualities which cannot be isolated. We find it difficult to say that a teacher is reinforcing at a given instant merely because he says "Tremendous." In addition we need to know the function of that remark in the microlesson which is being observed. That is to say, we need to know how it contributes to the internal structure of the lesson.

Furthermore, in a well developed lesson there is some relationship between its purpose and its structure. In fact, the purpose, or purposes, of the lesson are what coordinate the smooth functioning of its parts. Thus the parts of a lesson need to be understood in relation to this purpose. Just as the parts of an organism are combined into systems within the organism, performing functions which contribute to the configuration of the organism, so the lesson has certain subsystems with discrete functions that lend a particular configuration to the lesson. Of course, a lesson can be divided into parts in a variety of ways. One way we have tried to do this is to see the traditional microteaching skills as parts of a lesson. One can refer to the reinforcement subsystem in a given classroom experience. Or one can look at the question - answer pattern as another subsystem. What confuses the issue in dealing with the behaviors usually associated

with these subsystems is that a given behavior can be part of two or more subsystems. For instance, a question can be part of the questioning subsystem, but it can also be part of the reinforcement subsystem, and perhaps part of the classroom management subsystem as well. One can only deal with this difficulty by keeping in mind the intent of the lesson. The investigator can then look for a dynamic pattern of development where the purposes of each subsystem can be evaluated for their effects within the system.

We have further found it helpful to distinguish two types of systems within a lesson. The first is the rational, intellectual model of the content of the lesson, a model which is primarily derived from the subject matter. By 'model', in this context, we mean a rough guide or pattern which serves to organize the material being presented. The second is the behavior patterns, or skills, together with the subbehaviors which make up the pattern. These behaviors should be derived from the model, and in a well developed lesson they are the manifestations of the model in experience. In planning a lesson, one works by grasping the interrelationships of concepts (the model of content) and then by planning for the anticipated behavior in the teaching situation. But in observing a lesson one works in reverse order by seeing it first of all as a pattern of behavior with as yet an unspecified purpose, then as a series of interrelationships of concepts in some sort of pattern or sequence.

For the inexperienced teacher, the model of content is almost entirely based on the subject matter being presented. For the experienced teacher, it can be strongly influenced by his accustomed style of teaching and his knowledge of the group he is teaching. For instance, the notion of transformations may serve to structure mathematical content (such as graphing

of algebraic functions) for some groups and not for others, depending, among other things, on their capacities and previous experience. Or, ecological concepts may fit some teachers' accustomed way of dealing with outdoor education, but they may seem foreign to others. Nevertheless, even for experienced teachers the subject matter has to be the prime determinant of how his model is built. This does not mean that the teacher need use terms from the theory of transformations or ecological science; but he will use the concepts to organize his own thinking about the subject matter.

One purpose the model serves is to enable the teacher to predict many of the responses he will get from pupils and then to frame appropriate replies, something he could not do in advance if his material had no structure for him. When he gets into the class, it provides a baseline in his mind through which the behavior of the class can be comprehended and evaluated; i.e., it enables him to process the feedback he is getting about the state of his pupils' thinking. He can then give his pupils feedback so they can form a better estimate of his own thinking. As a student begins to grasp the model, it helps him see that the teacher's responses to him are based on some order that is neither arbitrary or whimsical.

An Example

Because stage six of the microteaching clinic described in the companion paper embodies the dynamic approach to skills most completely, let us look at it in more detail. The purpose of this stage was to show students the structure of a model of lesson content and relationships of this structure to the anticipated behavior of those concerned in the

teaching situation.

As an example, we considered the content model that an American history teacher might use to introduce a unit on the 1820 to 1860 period. Among the historical characteristics of this period were the compromises over economic issues, slavery, and admission of states to the Union. The teacher teaching this unit and aware of the attempts at compromise made in this era might opt to begin the study with the type of class activity that would develop in the minds of the students the meaning of the word "compromise." But he is interested in more than just a dictionary definition of the word (though this may be a good place to begin). Because he is talking about some rather particular types of compromises, in this case, compromises to avoid power conflicts, he must establish the function of compromise as an attempt to avoid a direct power clash. Thus, the teacher initially expects the child to see that people seek compromise when: 1) The power balance between the parties involved is roughly equal and the threat of force seems too risky for both; 2) each party has something that the other wants and needs; and 3) there is some commitment to the possibility that a compromise can be worked out which will avoid a win-lose situation for both parties.

With this model of the concept in mind, the teacher can now start his lesson by drawing upon the experiences of the class to develop the properties of compromise. His first question of definition might encourage a student to say, "A compromise is a type of agreement," but to settle for that definition would be to leave the definition incomplete in terms of the model, for every agreement is not a compromise. So, the teacher could extend the concept by developing some of its properties. He might attempt

to find out how compromises are different from other types of agreement, perhaps delineating the types of situations which contain the "giving up" elements of a good compromise; e.g., labor contract negotiations, diplomatic treaties, and pricing indices from cost accounting systems. Contrasted with these, he could use agreements of a non-compromising character -- setting appointments, declaring common goals, leasing a car, engaging in a cooperative economic venture by two complementary companies in a given market, and a host of others. From these contrasted activities, the pupil is expected to develop a view of the properties contained in the teacher's notion of compromise.

But in our view the teacher does not simply inculcate his notion of compromise by lecturing (or questioning, or what have you). He uses his notion to anticipate his students' responses, not necessarily specific utterances but general types of replies. The teacher has a baseline definition upon which he can interact with the student. In other words, when a student responds to his question, he can totally validate it ("Excellent, Roger, you put these ideas together in the same way that the example called for"); he can partially validate it ("You have the right idea Fred, but do you see some aspects here that limit this particular agreement in terms of the properties of compromise?"); or, he can reject it ("Wait a minute, Steve; listen again to the question and see what it is asking you to do. Think through the relationship of the question to the experience you are talking about. How are they the same or different?"). The behaviors of both teacher and student are being meshed together in some systematic way.

The intermeshing of behaviors between student and teacher is reliant

on the cues about the model of content which are exchanged in the classroom. As the teacher sees the systematic development of his lesson from the model, he cues the child as to how things are going in each episode. As the child understands the model (more and more efficiently as the lesson goes on, we hope), he applies it and returns his own cues to the teacher who then interprets and validates by giving appropriate feedback on the worth of the answer in terms of the model. As the students clarify the model in their minds and gain a sense for its field of application, they should begin using the questioning skills, the reinforcing answers, and the data management concepts. In this sense, the real goal of teaching is to make teachers out of the students -- to have them control those skills which we define as "good teaching."

After a student has gained a feel for the model, it is important that he go on to see that the formal properties of the model apply to situations which are problematic to him for a major part of an educative experience is to relate the academic aspects of subject matter to the realms of life experience. Subject matter is a reflection of part of human experience, one that has been subjected to the very form of analysis which the teacher is using with the child. With the formal properties in mind, the teacher then might ask, "How well do compromises work between parents and children generally?" One child may reply, "Not too well. My mother tells me what to do. I don't tell her." At this point the teacher has not only isolated one of the principles of compromise (power relationships) but he has made it more vivid. Another child may counter the above view with a statement like, "But there are things we compromise about. When I want to come in at ten, and she says 'Be in at nine,' we often compromise at 9:30." Here

the student has added a property to the model that the teacher and class may want to include -- the willingness of parties involved in the conflict situation to settle somewhere between total gains and total losses. This enables the child to see more clearly how the "win-lose" aspects of the situation are tempered in a compromise. The thoughtful teacher, thinking ahead to the unit on the Civil War, may also think of teaching that war the result of movement by the concerned parties (the North and South) to progressively adamant win-lose positions.

As these aspects of the model are translated directly into classroom learning experience, the teacher has now created a form which enables the student to handle the historical discussion of the Great Compromises in a disciplined way; the children's responses will be analyzed in terms of the structure of the model, and the model should not be the exclusive property of the teacher. Other children should be able to "read" how the model is being used and how particular types of data from the subject matter are being integrated. For instance, when the figures on economic growth, productivity, and population growth of the various sections of the country are being discussed, the student should see clearly that these data are indices of the relative power growth of each section of the nation, and that these will change the effects of the studied compromise. He should further see that a change in one set of conditions (as reflected in the appropriate data) make a change in the relationship of properties in the model. So, in a real sense, the study of this unit in American History has become a disciplined study of the nature of compromise in general.

The disciplined study of compromise can then be used, in turn, to study some situations which are highly relevant to the student and his

environment: race relations, employer-employee relationships, inter-group disputes in the school, and many others. A whole host of problems can now be analyzed, possibly as independent research projects based upon the frames of reference established in the model. By giving the student a tool of analysis and a process for developing other such tools, the teacher is allowing and encouraging the student to develop ways of acting upon the environment in a mature, responsible, and communicable way. He is showing the student the ways in which the quality of the student's life can be enriched.

In summary, this example illustrates three aspects of the content model: 1) The content model will assist the teacher in framing his anticipation of class behavior, furnishing him with a sense of direction which will enable him to adopt the right behavior for the situation; 2) The model is also a pattern of organization for allowing the class to begin development of some structure for analyzing their own experience; and 3) The content model is not cast in bronze. It should be capable of expansion and extension, of incorporating the experiences of members of the class as operating principles for guiding their input into the class.

Developing Behavioral Alternatives

One of the principal criticisms which we had of the component skills approach to microteaching was that although it may increase a teacher's repertoire of behaviors, it does nothing to help him choose alternative behaviors in the classroom. It would be natural, then, to ask about the extent to which the dynamic skills approach increases the alternatives available to a teacher. Once a teacher has developed and successfully

used a model of content, does it lock him into a pattern of behavior? This is, of course, an unresolved question, but our experience to date can be summarized in the following way.

The beginning teacher teaching any lesson for the first time usually feels boxed in no matter how well he has structured the content model. Yet, if a teacher has no particular goal for the learning experience and no particular logic in mind and no particular set of rational expectations from the pupils, then anarchy prevails -- the students spend their time guessing at what the teacher is doing and trying to strike a responsive note or gain some insight that will make the "system" coherent. When nothing reasonable emerges, either the teacher will pre-empt the discussion and deliver a lecture, or the students will reduce it to a "bull session" by venting general opinions on any subject. The result will be that the people in the classroom talk <u>at</u> each other rather than <u>to</u> each other. This condition can be observed easily in many microteaching situations and is evidenced by certain behavior patterns: rudeness, interrupting, peripheral relationships between comments, disassociative behavior on the part of some students, and a lack of closure. Eye contact may be chaotic, and several students may be bored or totally noncommunicative.

An initial microlesson that is well planned from a conceptual model, however, will evoke some disciplined response from the students especially as they begin to assimilate the nature of the problem and the concepts that structure it. There will be some probing of the model by student response, although a clear view of appropriate responses will probably only emerge at the end of the lesson. And even then it may be mixed with some distractive comments and misinterpretation. These stem from the fact

that the teacher is not sure of the model himself and of the appropriate cues. He varies his feedback with a smokescreen of extraneous cues -- poorly put questions, ignored student responses, contradictory statements, and the rest. He has not mastered the cues of the system and he does not quite know how to read back the cues from the students. His baseline is not quite clear in his own mind, and therefore his sense of behaviorial options is rigid. He spends a good deal of his time in front of the class thinking "What am I going to do next?" or "I really didn't handle that situation very well." It is hard for him, even with a well planned lesson, to relax and concentrate on pupil behaviors. We say that the lesson is characterized in our review of the tapes, as "opportunities lost." We mean by that that the students probably have given the teacher some opportunies to develop something in the model which was important to the success of the teaching experience, but he missed it because of excessive commitment to the way the model should develop. In his single mindedness, he stifles several of those student inputs which would allow the real "mesh" that he is actually looking for.

A well prepared lesson derived from a model which has been taught a couple of times before, however, yields some rich dividends. When the teacher has mastered the basic model, has confidence in its potential, and has a well developed set of expectations in terms of pupil behavior, then he seems to be ready to listen to the students and read back the cues that they are trying to give him. He knows when to stop and ask a child to elaborate, when to ask for examples, and how to precisely ask questions that do not lead astray. At that point, new alternatives in behavior emerge, for the teacher can see when students have discovered a different

route to the same goal. He is no longer a traveller on a strange road in a foreign land limited by a skeleton road map. Now he can see the lesson as home ground. He knows where he wants to go and can improvise new routes, framing new behaviors for himself with the spontaneity of the craftsman who is not limited to the diagrams in the training manual. Just as an experienced mechanic is more likely to let a young mechanic unknowingly make a mistake or take a course of action which is not set out in the repair manual, so an experienced teacher, who can read feedback from his students, is more likely to let them try new paths because his sense of direction is well tuned to the familiar landmarks.

The well prepared lesson has longer term effects. In our experience, once a teacher has taught a lesson in which he felt in control of the experience, happy with himself, and clear about the feedback from his pupils, the chances of his teaching another such lesson increase markedly. He begins to look for certain qualities in his lessons that will develop the kind of feedback that he wants. A good lesson becomes the purpose toward which the development of skills is directed and the thing which gives meaning to the skills. In other words, when developed and practiced in relation to the aims of the lesson, the skills become serviceable in classroom situations.

FOOTNOTES

[1]William Guelcher, Travis Jackson, and Fabian Necheles, Micro-teaching and Teacher Training, Occasional Paper Number One (Chicago: The University of Chicago, Teacher Education Center, 1970).

[2]Dwight Allen and Kevin Ryan, Microteaching (Reading, Mass.: Addison-Wesley, 1969), p. 14.

[3]For further development of this point of view see A. R. Louch, Explanation and Human Action (Berkeley, Calif.: University of California Press, 1966).

[4]James M. Cooper, "A Performance Curriculum for Teacher Education," Stanford, 1966, p. 6. (Mimeographed).

[5]Ibid., p. 6.

[6]Kevin A. Ryan, "A Performance Model for Teacher Education," Chicago, 1967. (Duplicated).

[7]Ibid., p. 13.

[8]Ibid., p. 14.

[9]John Dewey, "The Relation of Theory to Practice in Education," The Relation of Theory to Practice in the Education of Teachers, Third Yearbook of the National Society for the Study of Education, Part I (Chicago, Ill.: University of Chicago, 1904) p. 13.

[10]Cooper, op. cit., p. 21.